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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

STOYNOV, STEFAN

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,117

Applicant(s)

TSAI ET AL.

Examiner

Stefan Stojnov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

Claim 16 is objected to because of the following informalities:

In claim 16, line 5, the word "to" appears to be missing between the words "according" and "said".

Claim 16, line 10, recites the limitation "said predetermined shutdown time". There is insufficient antecedent basis for this limitation in the claim. Replacing the word "predetermined" with "specified" is suggested.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 8-11, 13, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al., U.S. Patent No. 5,815,409.

Re claim 1, Lee discloses a safe power-off system used for an electrical system which comprises:

a main system (FIG. 2, FIG. 4, 20);

a power supply apparatus for supplying power to said main system (FIG. 4, 10, 20) capable of generating a power-off signal when the power is manually turned off (column 5, lines 51-55, FIG. 4, D321, signal received on input CLK); and

a power switch for controlling a power connection between said power supply apparatus and said main system (column 4, lines 52-57, FIG. 4, SW311)

wherein said power-off system is used to receive said power-off signal and therefore generate an indication signal to facilitate said main system to perform a preparation program containing a system power-off preparation procedure (column 5, lines 51-65, FIG. 3, S6 and S7), and then said safe power-off system can be triggered, as long as the performance of said system power-off preparation procedure is completed, so as to notify the power switch to cut off the power connection between said main system and said power supply apparatus (column 5, lines 42-50, line 65 – column 6, line 12, FIG. 3, S8-S11).

Re claim 2, Lee further discloses the system, wherein said electrical system is a computer (column 3, lines 1-6, FIG. 4).

Re claim 8, Lee further discloses the system, wherein said main system can send back a confirmation signal, relied on complete of performing said power-off preparation procedure, to said safe power-off system thereby triggering said safe power-off system to control said power switch to cut off the power connection between said main system and said power supply apparatus (column 5, line 65 – column 6, line 12).

Re claim 9, Lee discloses a safe power-off method for controlling the power connection between a main system and a power supply apparatus, comprising:

receiving a power-off signal from said power supply apparatus (column 5, lines 51-55, FIG. 4, D321, signal received on input CLK, FIG. 4, SW311, 10);

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generating a corresponding interrupt signal to said main system according to said power-off signal (column 5, lines 51-62, FIG. 3, S6);

facilitating said main system to perform a preparation program according to said interrupt signal wherein said preparation program contains a system power-off preparation procedure which is necessary to be performed before the power off of the main system (column 5, lines 60-64, FIG. 3, S7, column 3, lines 1-6, lines 11-18, column 6, lines 13-25);

writing a register signal into a register to trigger a safe power-off apparatus when said main system completes the performance of said preparation procedure (column 5, line 65 – column 6, line 10, FIG. 3, S8-S10); and

cutting off the power connection between said main system and said power supply apparatus when said safe power-off apparatus is triggered (column 6, lines 11-12, FIG. 3, S11).

Re claim 10, Lee further discloses the method, wherein after said register signal is written to said register, said register signal can change the electrical potential of a special pin number of said register to trigger said safe power-off apparatus (column 5, line 65 – column 6, line 12).

Re claim 18, Lee discloses a safe power-off system used for an electrical system having a main system (FIG. 4, 20), a power supply apparatus for supplying power to said main system (FIG. 4, 10) and a power switch for controlling a power connection between said power supply apparatus and said main system (FIG. 4, SW311), said safe power-off system comprising:

a safe power-off apparatus capable of controlling said power switch to cut off the power connection between said main system and said power supply apparatus (column 4, lines 37-59, FIG(s) 2 and 4);

an interrupt controller capable of generating a corresponding interrupt signal to said main system when said safe power-off apparatus receives a power-off signal from said power supply apparatus (column 5, lines 51-62, FIG.3, S6);

a preparation program containing a system power-off preparation procedure which is necessary to be performed before power off of said main system (column 5, lines 60-64, FIG. 3, S7, column 3, lines 1-6, lines 11-18, column 6, lines 13-25); and

a memory mapping register capable of receiving a register signal generated by said preparation program, as long as said main system completes the performance for said system power-off preparation procedure, thereby triggering the safe power-off apparatus to control said power switch to cut off the power connection between said main system and said power supply apparatus (column 5, line 65 – column 6, lines 12, FIG. 3, S8-S11).

Re claim 19, Lee further discloses the system, wherein said preparation program further comprises a procedure to determine whether said main system has completed the performance for said power-off preparation procedure (column 5, line 65 – column 6, line 12).

Re claims 3 and 11, Lee further discloses the system and method, wherein said system power-off preparation procedure further comprises a procedure of storing each

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data that is being proceeded by said main system to a storage device (column 2, lines 43-55).

Re claims 5 and 13, Lee further discloses the system and method as per claims 3 and 11, wherein said preparation program further contains a procedure to determine whether said main system has completed the system power-off procedure or not (column 5, line 42 – column 6, line 12).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 6, 7, 12, 14-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al., U.S. Patent No. 5,815,409 in view of Hanaoka, U.S. Patent No. 5,530,877.

Re claims 4 and 12, Lee discloses the system and method as per claims 3 and 11.

Lee fails to disclose said storage device can be one of a floppy disk drive, a hard disk, a compact disk-read only memory (CD-ROM) drive, a network disk drive attached to the Internet, or other buffer intermediates.

Hanaoka teaches a computer system where in response to turning off a power switch, generating an interrupt, which causes activation of a timer routine (updating a counter/timer), followed by a power off detection program, system state saver, and a post-save process to turn off the power (column 2, lines 23-36, column 5, lines 6-28, lines 33-36, lines 40-43, column 7, lines 45-52, 54-60, column 9, lines 21-35, column 12, line 42 – column 13, line 13). In addition, Hanaoka teaches storing the system state information to either a hard disk drive or a floppy diskette, or different variety of external storage medium (column 7, lines 45-52, lines 54-60, column 14, lines 53-58). In Hanaoka, the above-describe system and method are used for determining and managing the timing at which the computer or system state is to be saved prior of cutting off the power (column 4, lines 14-17, lines 19-29). Thus, continuity of the computer system operation is ensured (column 2, lines 14-18) without loss of data upon system power off (column 4, lines 19-29).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the storing of system state data to different types external storages during the safe system power-off, as suggested by Hanaoka with the system and method disclosed by Lee in order to implement said storage device can be one of a floppy disk drive, a hard disk, a compact disk-read only memory (CD-ROM) drive, a network disk drive attached to the Internet, or other buffer intermediates. One of

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ordinary skill in the art would be motivated to do so in order to achieve continuity in the operation for the main system without losing the system state upon power-off.

Re claims 6 and 14, Lee discloses the system and method as per claims 1 and 9.

Lee fails to disclose said propagation program further comprises a timer procedure to count time for power off.

Hanaoka teaches a computer system where in response to turning off a power switch, generating an interrupt, which causes activation of a timer routine (updating a counter/timer), followed by a power off detection program, system state saver, and a post-save process to turn off the power (column 2, lines 23-36, column 5, lines 6-28, lines 33-36, lines 40-43, column 7, lines 45-52, 54-60, column 9, lines 21-35, column 12, line 42 – column 13, line 13). In Hanaoka, the above-describe system and method are used for determining and managing the timing at which the computer or system state is to be saved prior of cutting off the power (column 4, lines 14-17, lines 19-29). Thus, continuity of the computer system operation is ensured (column 2, lines 14-18) without loss of data upon system power off (column 4, lines 19-29).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the method including a timer routine (updating a counter/timer) used during the safe system power-off, as suggested by Hanaoka with the system and method disclosed by Lee in order to implement said propagation program further comprises a timer procedure to count time for power off. One of ordinary skill in the art would be motivated to do so in order to achieve continuity in the operation for the main system without losing the system state upon power-off.

Re claims 7 and 15, Hanaoka further teaches the system and method as per claims 6 and 14, wherein said preparation program further comprises a timer procedure to count time for power off (column 5, lines 6-28, column 12, lines 46-58).

Re claim 16, Lee discloses a safe power-off method for controlling the power connection between a main system and a power supply apparatus, comprising:

receiving a power-off signal from said power supply apparatus column 5, lines 51-55, FIG. 4, D321, signal received on input CLK, FIG. 4, SW311, 10);

generating a corresponding interrupt signal to said main system according to said power-off signal (column 5, lines 51-62, FIG. 3, S6);

facilitating said main system to perform a preparation program according to said interrupt signal (column 5, lines 60-64, FIG. 3, S7);

writing a register signal into a register to trigger a safe power-off apparatus (column 5, line 65 – column 6, line 10, FIG. 3, S8-S10); and

cutting off the power connection between said main system and said power supply apparatus when said safe power-off apparatus is triggered (column 6, lines 11-12, FIG. 3, S11).

Lee fails to disclose said preparation program contains a procedure to count a specified shutdown time and to trigger a safe power-off apparatus when said predetermined shutdown time is reached in count.

Hanaoka teaches a computer system where in response to turning off a power switch, generating an interrupt, which causes activation of a timer routine (updating a counter/timer), followed by a power off detection program, system state saver, and a

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post-save process to turn off the power (column 2, lines 23-36, column 5, lines 6-28, lines 33-36, lines 40-43, column 7, lines 45-52, 54-60, column 9, lines 21-35, column 12, line 42 – column 13, line 13). In Hanaoka, the above-describe system and method are used for determining and managing the timing at which the computer or system state is to be saved prior of cutting off the power (column 4, lines 14-17, lines 19-29). Thus, continuity of the computer system operation is ensured (column 2, lines 14-18) without loss of data upon system power off (column 4, lines 19-29).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the method including a timer routine (updating a counter/timer) used during the safe system power-off, as suggested by Hanaoka with the method disclosed by Lee in order to implement said preparation program contains a procedure to count a specified shutdown time and to trigger a safe power-off apparatus when said predetermined shutdown time is reached in count. One of ordinary skill in the art would be motivated to do so in order to achieve continuity in the operation for the main system without losing the system state upon power-off.

Re claim 17, Hanaoka further teaches the method, wherein said preparation program further contains a timer procedure to determine whether said counted time has reached a predetermined shutdown time (column 5, lines 6-28, lines 33-36, column 12, line 42 – column 13, line 13).

Re claim 20, Lee discloses the system as per claim 18.

Lee fails to disclose said preparation program further comprises a timer procedure to determine whether a predetermined shutdown time has been reached in count.

Hanaoka teaches a computer system where in response to turning off a power switch, generating an interrupt, which causes activation of a timer routine (updating a counter/timer), followed by a power off detection program, system state saver, and a post-save process to turn off the power (column 2, lines 23-36, column 5, lines 6-28, lines 33-36, lines 40-43, column 7, lines 45-52, 54-60, column 9, lines 21-35, column 12, line 42 – column 13, line 13). In Hanaoka, the above-describe system and method are used for determining and managing the timing at which the computer or system state is to be saved prior of cutting off the power (column 4, lines 14-17, lines 19-29). Thus, continuity of the computer system operation is ensured (column 2, lines 14-18) without loss of data upon system power off (column 4, lines 19-29).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the system implementing a method including a timer routine (updating a counter/timer) used during the safe system power-off, as suggested by Hanaoka with the system disclosed by Lee in order to implement said preparation program further comprises a timer procedure to determine whether a predetermined shutdown time has been reached in count. One of ordinary skill in the art would be motivated to do so in order to achieve continuity in the operation for the main system without losing the system state upon power-off.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Stoykov whose telephone number is (571) 272-4236. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS


LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100